

U.S. Patent Application Serial No. **09/417,705**  
Amendment filed April 20, 2007  
Reply to OA dated November 28, 2006

**REMARKS:**

Claims 17-25 are currently pending, of which claim 23 has been amended herein and claims 24 and 25 have been newly added herein.

Applicant and Applicant's attorney thank Examiner Nguyen for the interview courteously granted March 1, 2007. The special attention the Examiner paid to the instant application is noted with appreciation. Items discussed during the interview include the non-final Office Action mailed November 28, 2006 and proposed claim amendments.

A. The Examiner has rejected claims 17, 21-23 under USC 103(a) as obvious over USP 6,628,328 (hereinafter **Yokouchi '328**) in view of USP 5,835,164 (hereinafter **Kanai '164**).

Applicant respectfully traverses this rejection, for the following reasons.

**Yokouchi '328** and **Kanai '164**, alone or in combination, fail to describe, teach, or suggest the following features set forth in claim 23, as amended: "a buffer in communication with said memory; a first switch; and a shutter button, wherein said first switch disconnects said thinning-out circuit from said buffer to disable said thinning-out circuit when said shutter button is operated," in combination with the other claimed features.

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Accordingly, in view of the above, Applicant respectfully submits that this rejection of claim 23 should be withdrawn. It is submitted that this rejection of claims 17, 21, and 22 should be withdrawn by virtue of their dependency.

**B. The Examiner has rejected claims 18-20 under USC 103(a) as obvious over Yokouchi '328 in view of Kanai '164 and USP 6,295,596 (hereinafter Hirabayashi '596).**

Applicant respectfully traverses this rejection, for the following reasons.

**Yokouchi '328, Kanai '164, and Hirabayashi '596**, alone or in combination, fail to describe, teach, or suggest the following features set forth in claim 23, as amended: "a buffer in communication with said memory; a first switch; and a shutter button, wherein said first switch disconnects said thinning-out circuit from said buffer to disable said thinning-out circuit when said shutter button is operated," in combination with the other claimed features.

Accordingly, in view of the above, Applicant respectfully submits that this rejection of claims 18-20 should be withdrawn by virtue of their dependency.

C.     CLAIM 24

Claim 24 has been newly added herein.

**Yokouchi '328, Kanai '164, and Hirabayashi '596**, alone or in combination, fail to describe, teach, or suggest the following features set forth in claim 23, as amended: "a buffer in communication with said memory; a first switch; and a shutter button, wherein said first switch disconnects said thinning-out circuit from said buffer to disable said thinning-out circuit when said shutter button is operated," in combination with the other claimed features.

Claim 24 depends from claim 23. Accordingly, in view of the above, Applicant respectfully submits that claim 24 is patentably distinguishable over **Yokouchi '328, Kanai '164, and Hirabayashi '596**, alone or in combination, by virtue of its dependency.

D.     CLAIM 25

Claim 25 has been newly added herein.

According to the claim 25, an imaging device has an imaging surface which generates an image signal corresponding to an optical image of an objective scene. A processor subjects the

image signal generated by the imaging surface to signal processes including a thinning process so as to create processed image data. A memory has a single input/output port. A writer carries out a writing process to write to the memory the processed image data created by the processor at a rate of one screen per a first time period.

A reader carries out, in parallel with the writing process, a reading process to read the processed image data stored in the memory at a rate of one screen per a second time period which is shorter than the first time period. A displayer carries out, in parallel with the reading process, a displaying process to display an image based on the processed image data read out from the memory.

A first instructor instructs the processor and the reader to suspend the thinning process and the reading process, respectively, at a time of accepting a recording operation. A second instructor instructs the writer to suspend the writing process at a timing of storing in the memory specific processed image data created by the processor after an instructing process of the first instructor. A recorder records to a record medium the specific processed image data stored in the memory.

Since the thinning process is carried out before accepting a recording operation, a resolution of the processed image data created by the processor prior to the recording operation is lower than the resolution of the imaging surface. The processed image data having such a low resolution is written to the memory by the writing process every first time period and read from the memory by

the reading process in parallel with the writing process every second time period which is shorter than the first time period, and therefore, a moving image based on the read processed image data is displayed by the display process in parallel with the reading process.

Thus, a resolution of the processed image data is reduced by the thinning process, the writing process of the processed image data is carried out every first time period, and the reading process of the processed image data is carried out every second time period shorter than the first time period. This makes it possible to display a moving image having a designate screen rate with preventing collapse of a process because of using a memory having a single input/output port.

When a recording operation is carried out, the thinning process and the reading process are suspended, and furthermore, the writing process is suspended at a time of storing the specific processed image data having a high resolution, which has been created by suspending the thinning process. The specific processed image data stored in the memory is thereafter recorded to the recording medium by the recorder.

Suspending the reading process and the writing process as above in response to the recording operation makes it possible to prevent collapse of a process because of the specific processed image data having the high resolution.

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In contrast, **Yokouchi '328** discloses to select a skipping read mode so as to display a real-time moving image on a liquid display unit while select an all-pixel read mode so as to record a still picture in a recording medium. **Yokouchi '328** fails to disclose or remotely suggest anything about a feature of the claim 25 which writes processed image data having a low resolution to the memory every first time period while reads the processed image data from the memory every second time period which is shorter than the first time period so as to prevent collapse of a process to display a real-time moving image having a designate screen rate, and suspends the thinning process, the reading process and the writing process upon receiving a recording operation so as to prevent collapse of a process to record high resolution image data.

**Kanai '164** discloses to write digital data into a memory at a first rate based on a writing control clock and read the digital data from the memory at a second rate which is  $n$  times the first rate ( $n$  is an integer greater than one). However, **Kanai '164** fails to disclose or remotely suggest anything about the above described features of the claim 25.

**Yokouchi '328**, **Kanai '164**, and **Hirabayashi '596**, alone or in combination, fail to describe, teach, or suggest the features set forth in claim 25.

In view of the aforementioned amendments and accompanying remarks, all claims currently being considered are in condition for examination.

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If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the Applicant's undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, the Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due now or in the future with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,  
ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP



Darren Crew  
Attorney for Applicant  
Reg. No. 37,806

DC/llf  
Atty. Docket No. **991142**  
Suite 1000  
1725 K Street, N.W.  
Washington, D.C. 20006  
(202) 659-2930



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Enclosure: Petition for Extension of Time